2004 Facilities and Asset Management Conference

Maximo/GIS Interface on Linear Structures

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John S. Anevski, PE

May 05, 2004

Irrigation Projects

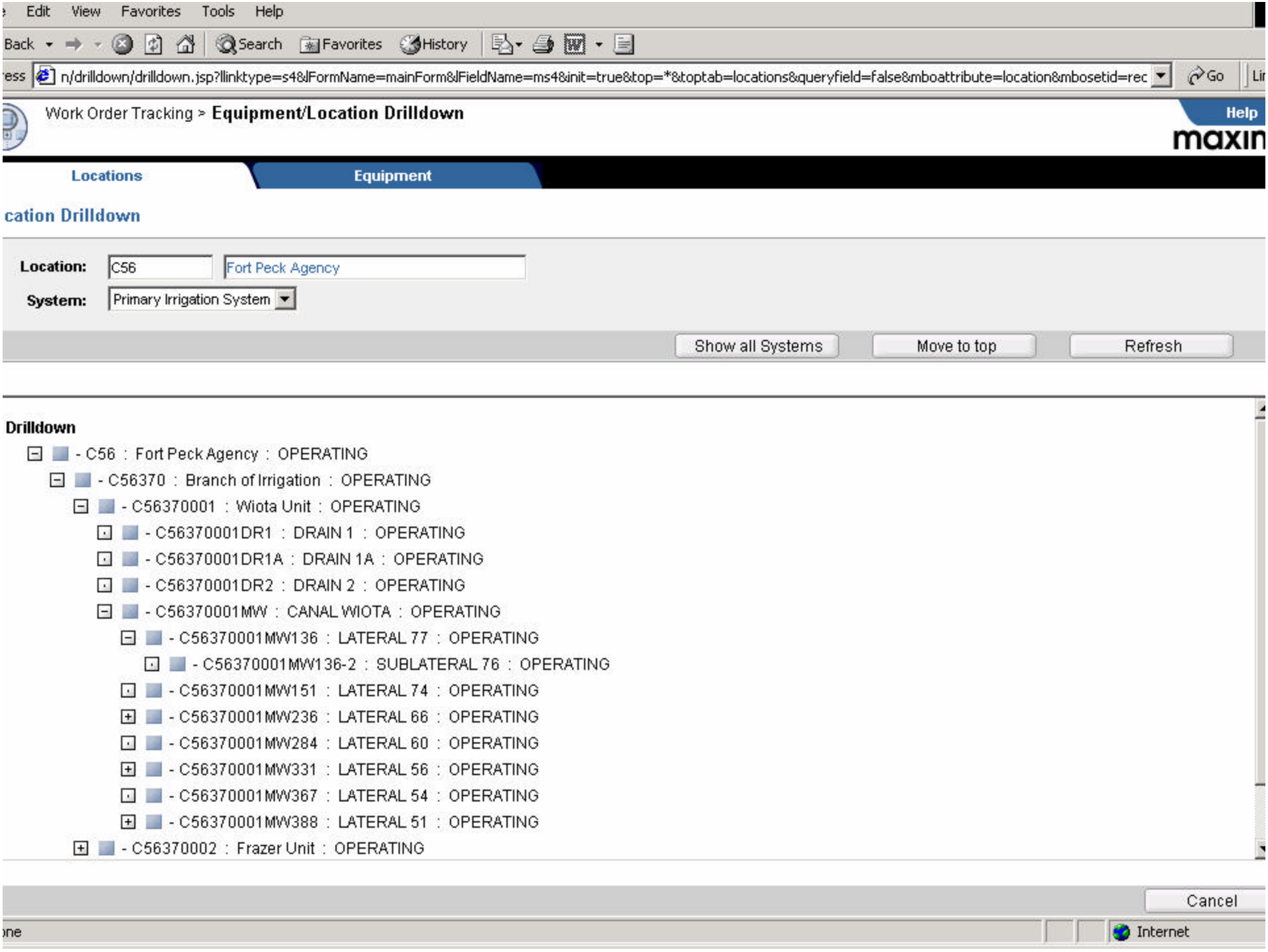
- Linear facilities (similar to roads) VS. Buildings & grounds.
- Can have 100's of structures per mile of canal

•PROBLEM:

•How do you find that one turnout that you need!

How Many Structures??

PROJECT	ACRES	DITCH MILES	STRUCTURES
Fort Peck	22,000	153	2,391
Wind River	55,000	414	7,592
Uintah	60,000	648	9,011
Wapato	150,000	769	10,279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Equipment
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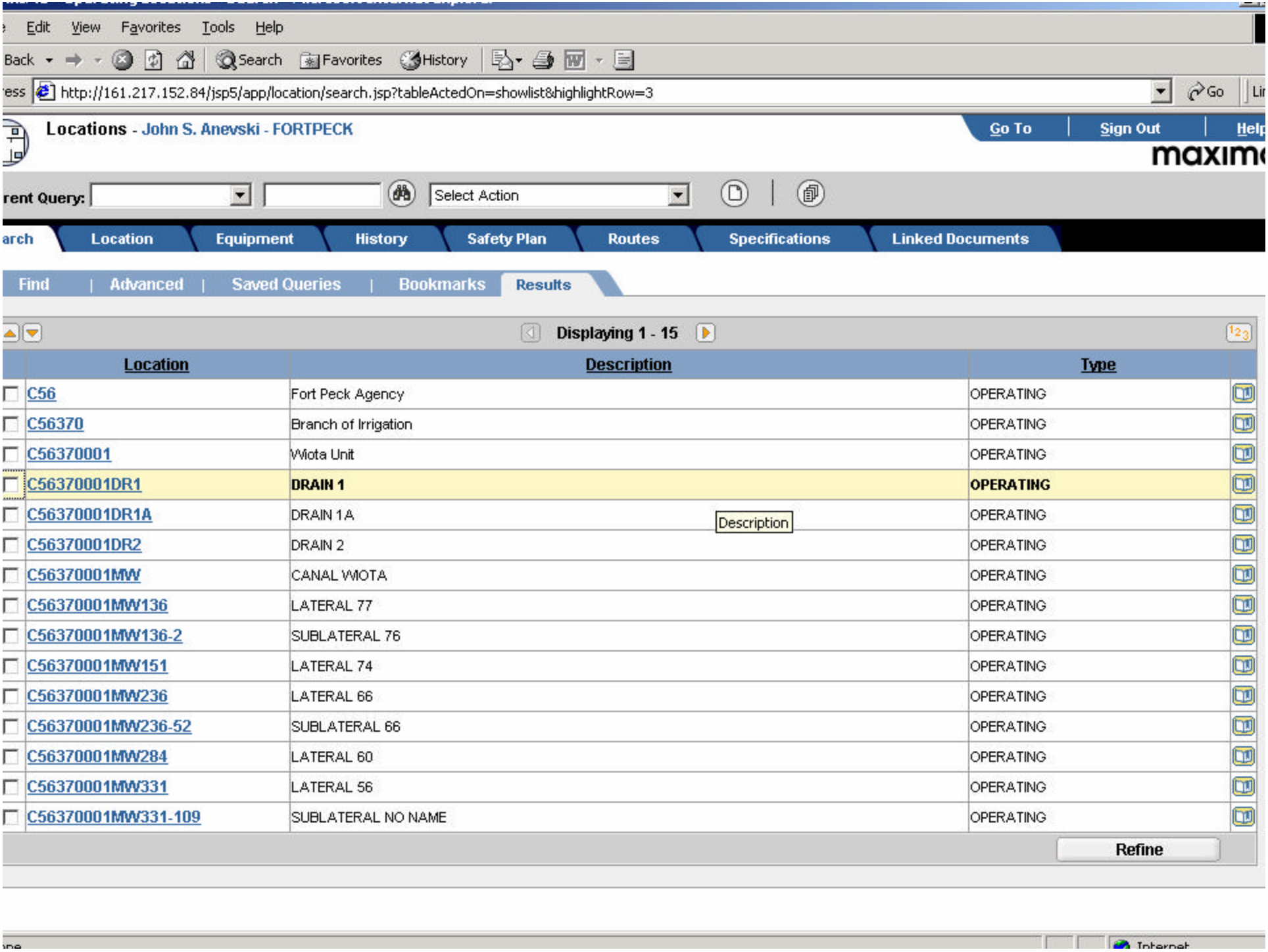
Location: C56 Fort Peck Agency
System: Primary Irrigation System
Show all Systems
Move to top
Refresh
Drilldown
- C56 : Fort Peck Agency : OPERATING
- C56370 : Branch of Irrigation : OPERATING
- C56370001 : Wiota Unit : OPERATING
- C56370001DR1 : DRAIN 1 : OPERATING
- C56370001DR1A : DRAIN 1A : OPERATING
- C56370001DR2 : DRAIN 2 : OPERATING
- C56370001MW : CANAL WIOTA : OPERATING
- C56370001MW136 : LATERAL 77 : OPERATING
- C56370001MW136-2 : SUBLATERAL 76 : OPERATING
- C56370001MW151 : LATERAL 74 : OPERATING
- C56370001MW236 : LATERAL 66 : OPERATING
- C56370001MW284 : LATERAL 60 : OPERATING
- C56370001MW331 : LATERAL 56 : OPERATING
- C56370001MW367 : LATERAL 54 : OPERATING
- C56370001MW388 : LATERAL 51 : OPERATING
- C56370002 : Frazer Unit : OPERATING
Cancel
Internet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Locations - John S. Anevski - FORTPECK
Go To
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Linked Documents
Find | Advanced | Saved Queries | Bookmarks | Results
Displaying 1 - 15
Location
Description
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C56 Fort Peck Agency OPERATING
C56370 Branch of Irrigation OPERATING
C56370001 Wiota Unit OPERATING
C56370001DR1 DRAIN 1 OPERATING
C56370001DR1A DRAIN 1A OPERATING
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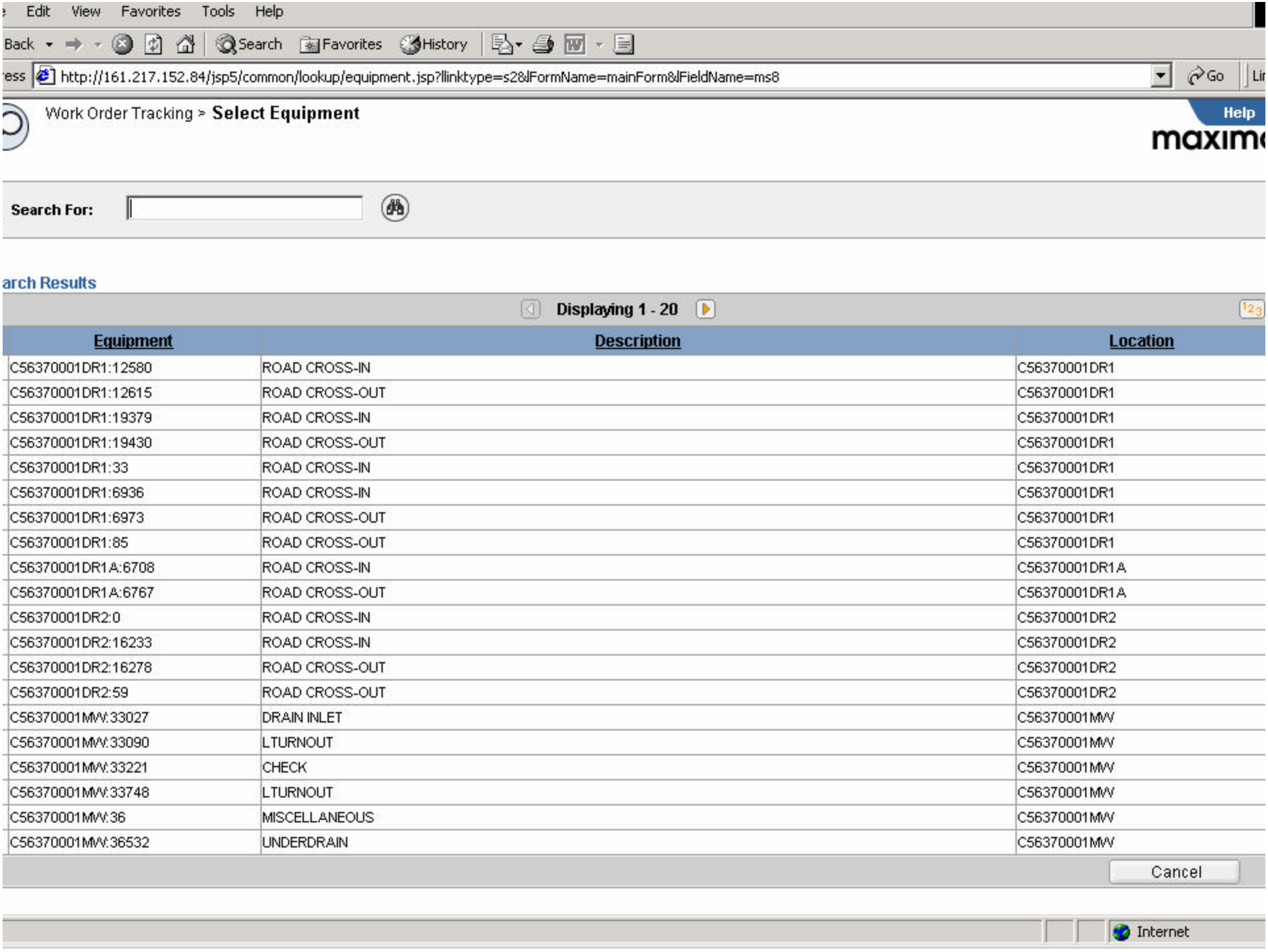
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Work Order Tracking > Select Equipment
Help
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Equipment
Description
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C56370001DR1:12615 ROAD CROSS-OUT C56370001DR1
C56370001DR1:19379 ROAD CROSS-IN C56370001DR1
C56370001DR1:19430 ROAD CROSS-OUT C56370001DR1
C56370001DR1:33 ROAD CROSS-IN C56370001DR1
C56370001DR1:6936 ROAD CROSS-IN C56370001DR1
C56370001DR1:6973 ROAD CROSS-OUT C56370001DR1
C56370001DR1:85 ROAD CROSS-OUT C56370001DR1
C56370001DR1A:6708 ROAD CROSS-IN C56370001DR1A
C56370001DR1A:6767 ROAD CROSS-OUT C56370001DR1A
C56370001DR2:0 ROAD CROSS-IN C56370001DR2
C56370001DR2:16233 ROAD CROSS-IN C56370001DR2
C56370001DR2:16278 ROAD CROSS-OUT C56370001DR2
C56370001DR2:59 ROAD CROSS-OUT C56370001DR2
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C56370001MW:33090 LTURNOUT C56370001MW
C56370001MW:33221 CHECK C56370001MW
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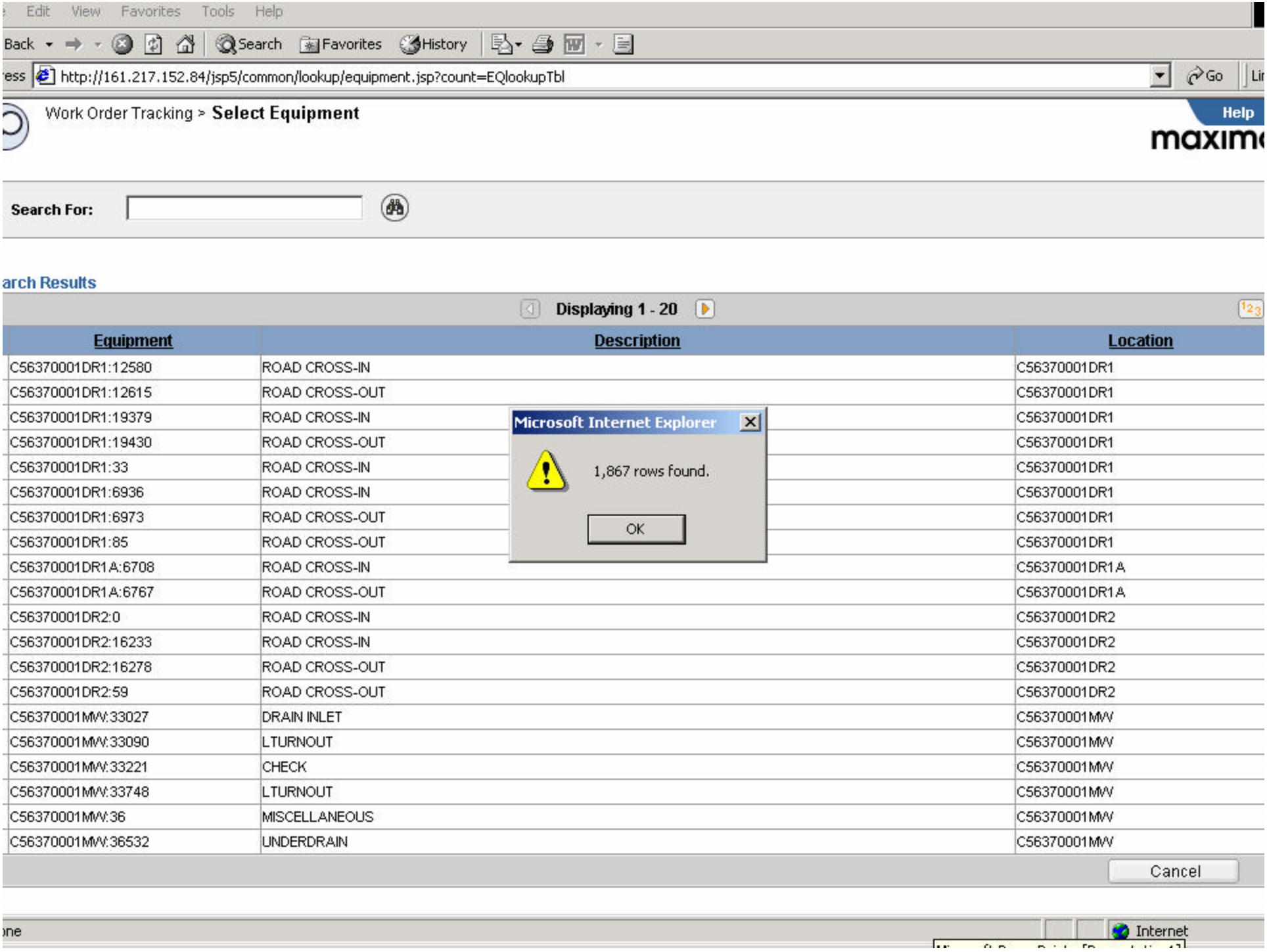
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Background

- BIA's Immediate Needs
  - 18 unique and independently managed irrigation projects
  - No markers to identify sections of irrigation ditches at regular intervals (mile markers, etc.)
  - Many access roads unmarked
  - No physical identification in most irrigation structures
- Favorable Conditions
  - GIS mapping and condition assessment being performed
  - Defined standards for naming irrigation ditches and structures
  - Unique identifiers for irrigation structures stored as GIS attributes
  - GIS records served as basis for MAXIMO® locations and equipment

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Interface Requirements

- Web-based application
- Fully integrated with MAXIMO®
- Intuitive process
  - Create work orders from map screen
  - Locate MAXIMO® records on the map
- Printing maps with work orders
- Create work orders from multiple selections from the map
- Create work orders for a dynamically selected section of an irrigation ditch

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Integration Requirements

- Two-way data sharing between MAXIMO® and GIS
  - New records
  - Removed records
  - Record updates
- Ability to approve and/or override changes
- Audit trail

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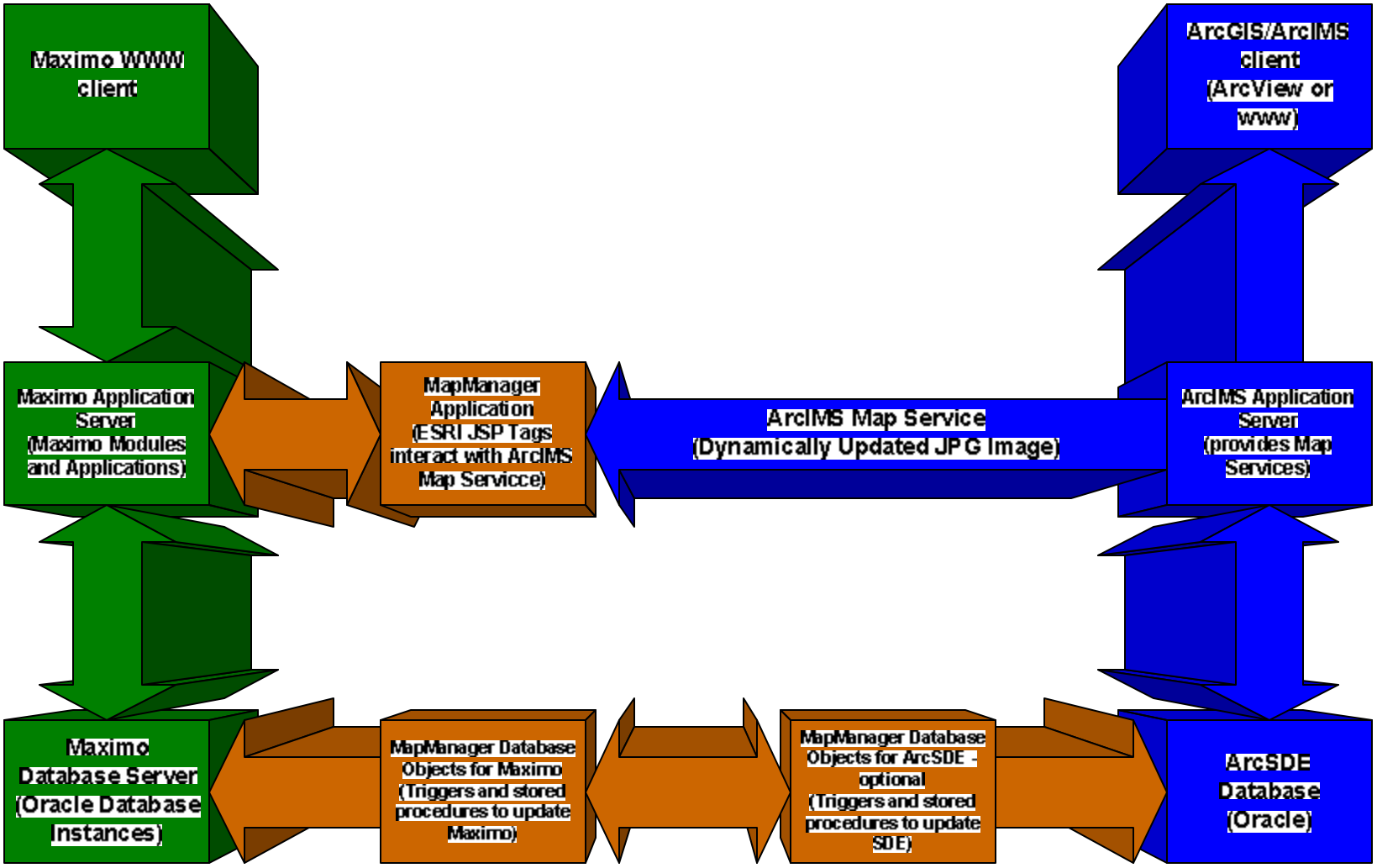
MapManager® 2.0



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How We Did it

- Web-based application
- Fully integrated with MAXIMO®

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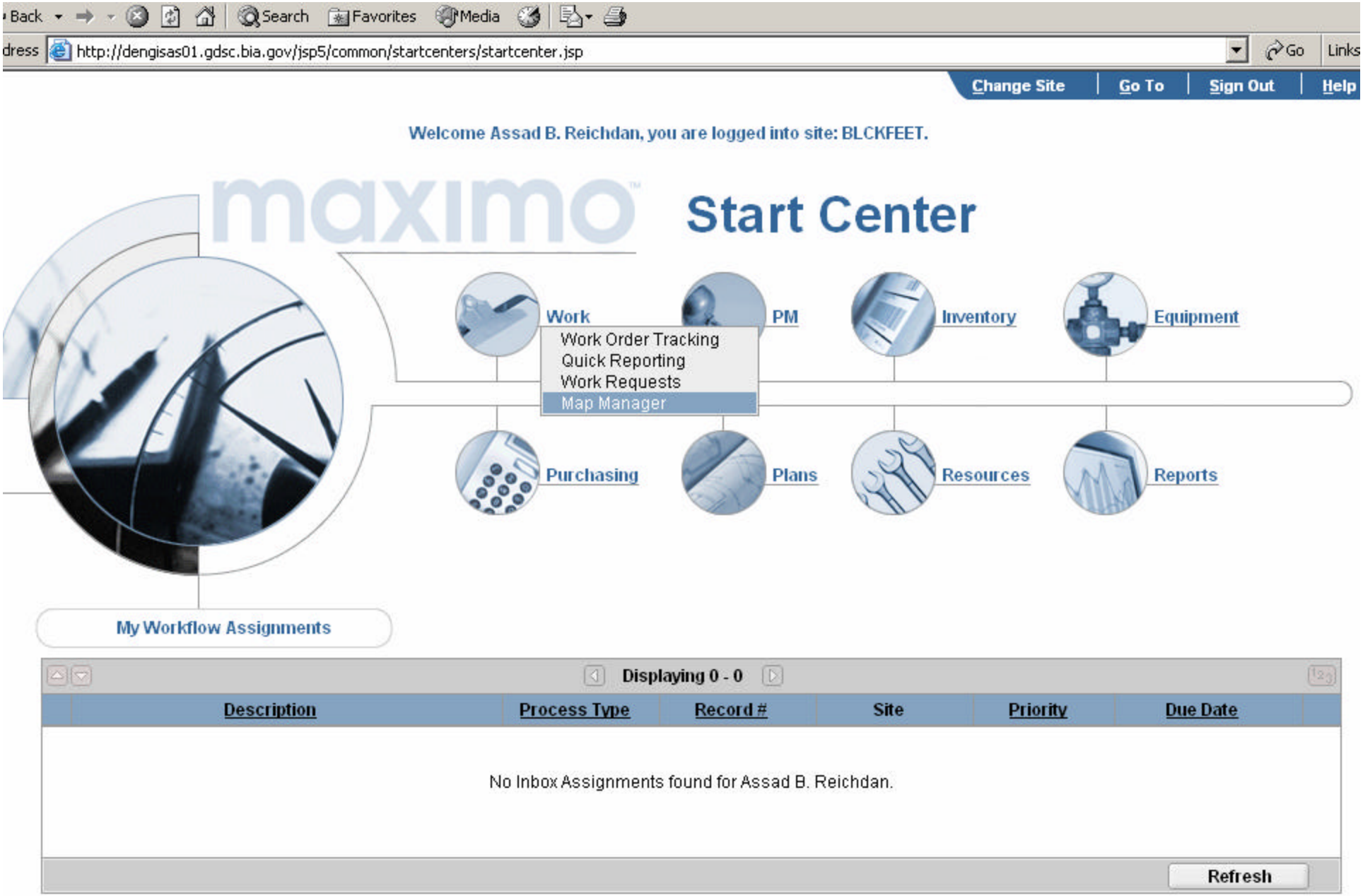
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Welcome Assad B. Reichdan, you are logged into site: BLCKFEET.
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Equipment
Work Order Tracking
Quick Reporting
Work Requests
Map Manager
Purchasing
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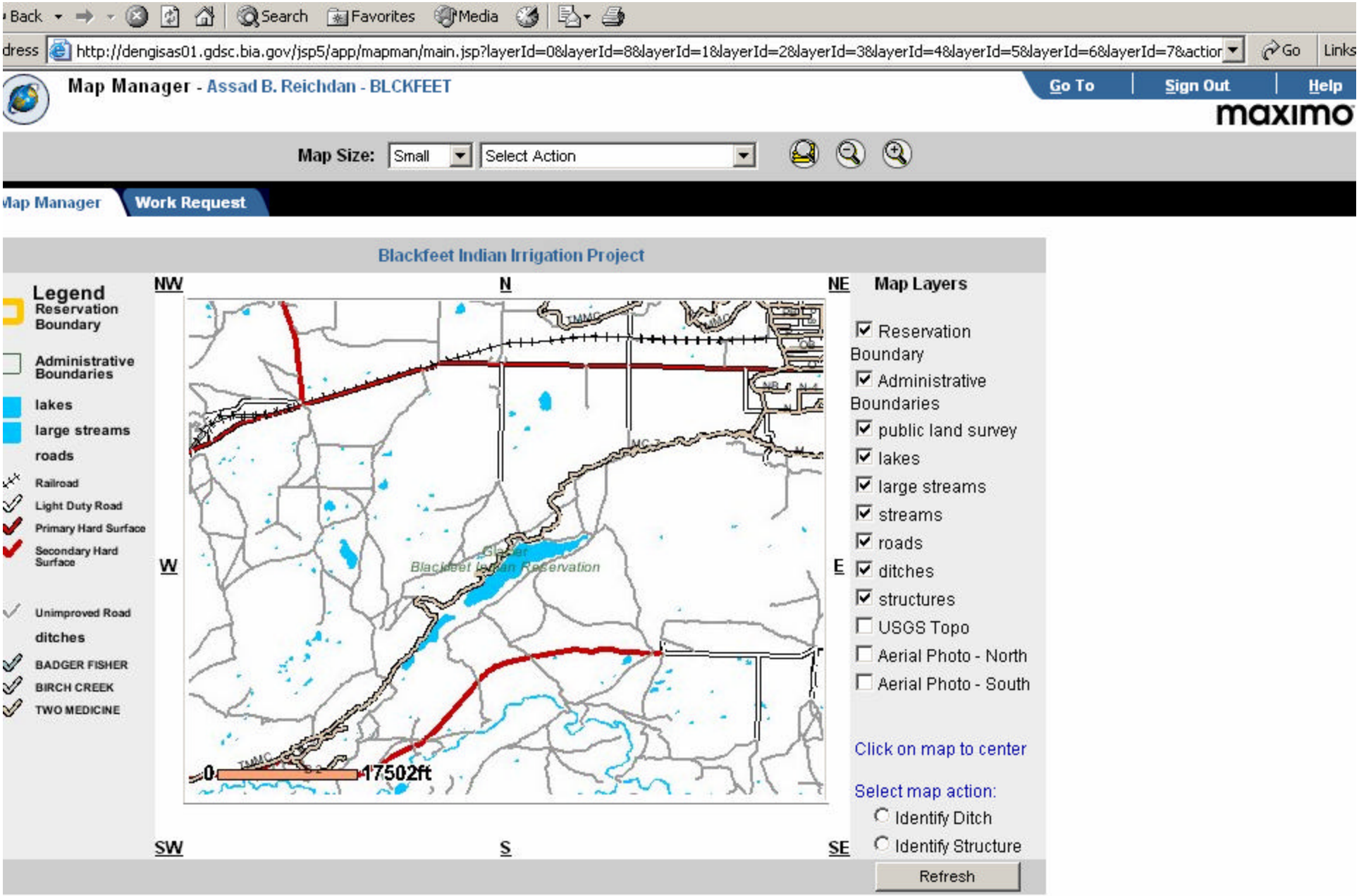
Description
Process Type
Record #
Site
Priority
Due Date
No Inbox Assignments found for Assad B. Reichdan.
Refresh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Work Request
Blackfeet Indian Irrigation Project
Legend
Reservation Boundary
Administrative Boundaries
lakes
large streams
roads
Railroad
Light Duty Road
Primary Hard Surface
Secondary Hard Surface
Unimproved Road
ditches
BADGER FISHER
BIRCH CREEK
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streams
roads
ditches
structures
USGS Topo
Aerial Photo - North
Aerial Photo - South
Click on map to center
Select map action:
Identify Ditch
Identify Structure
Refresh

How We Did it

- Intuitive process
  - Create work orders from map screen
  - Locate MAXIMO® records on the map
- Printing maps with work orders

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Back Search Favorites Media

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Map Manager - Assad B. Reichdan - BLCKFEET

Go To | Sign Out | Help

maximo

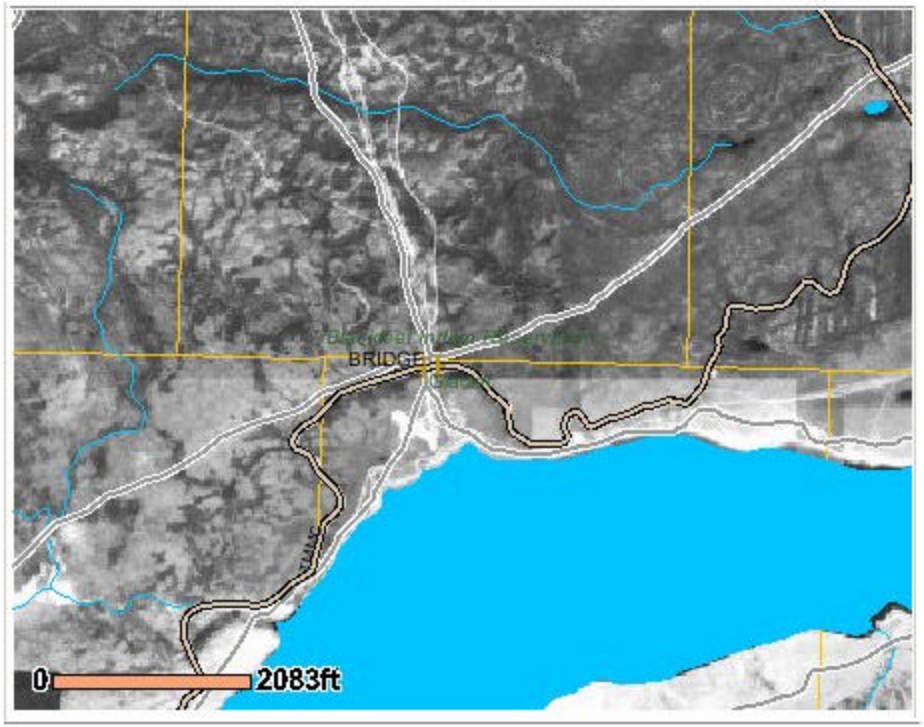
Map Size: Small Select Action

Map Manager | Work Request

Blackfeet Indian Irrigation Project

Legend
Aerial Photo - North
Reservation Boundary
Administrative Boundaries
public land survey
lakes
large streams
streams
roads
Railroad
Light Duty Road
Primary Hard Surface
Secondary Hard Surface
Unimproved Road
ditches
BADGER FISHER
BIRCH CREEK
TWO MEDICINE
structures
BRIDGE
CHECK
CHECK/CROSS
CHECK/DROP
CHECK/DROP/CROSS
CHUTE

NW N NE



W E

Map Layers

- [x] Reservation Boundary
- [x] Administrative Boundaries
- [x] public land survey
- [x] lakes
- [x] large streams
- [x] streams
- [x] roads
- [x] ditches
- [x] structures
- [ ] USGS Topo
- [x] Aerial Photo - North
- [ ] Aerial Photo - South

Click on map to center

Select map action:

- ( ) Identify Ditch
- (•) Identify Structure

G&B Solutions - MapManager - Select Feature - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Media

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Go

Light Duty Road
Primary Hard Surface
Secondary Hard Surface
Unimproved Road
ditches
BADGER FISHER
BIRCH CREEK
TWO MEDICINE
structures
BRIDGE
CHECK
CHECK/CROSS
CHECK/DROP
CHECK/DROP/CROSS
CHUTE
DAM DIVERSION
DROP
HEADGATE
LTURNOUT
MEASURING DEVICE
MISCELLANEOUS
ROAD CROSS
RTURNOUT
SIPHON
SPILLWAY
UNDERDRAIN
WASTEWAY

W E

SW S SE

USGS Topo
Aerial Photo - North
Aerial Photo - South

Click on map to center

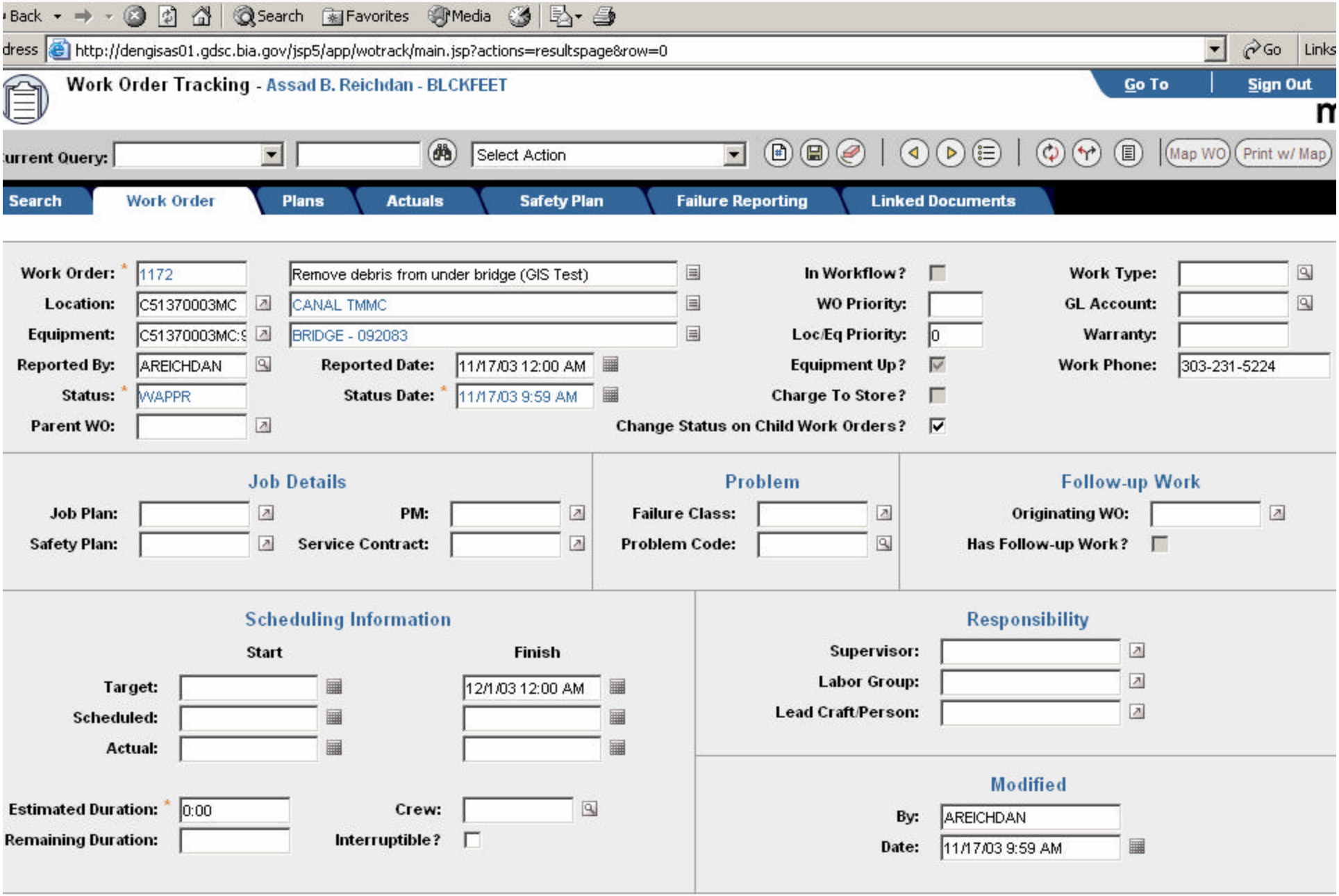
Select map action:
Identify Ditch
Identify Structure

Refresh

Structure ID	Description
C51370003MC:92083	BRIDGE

Done

Internet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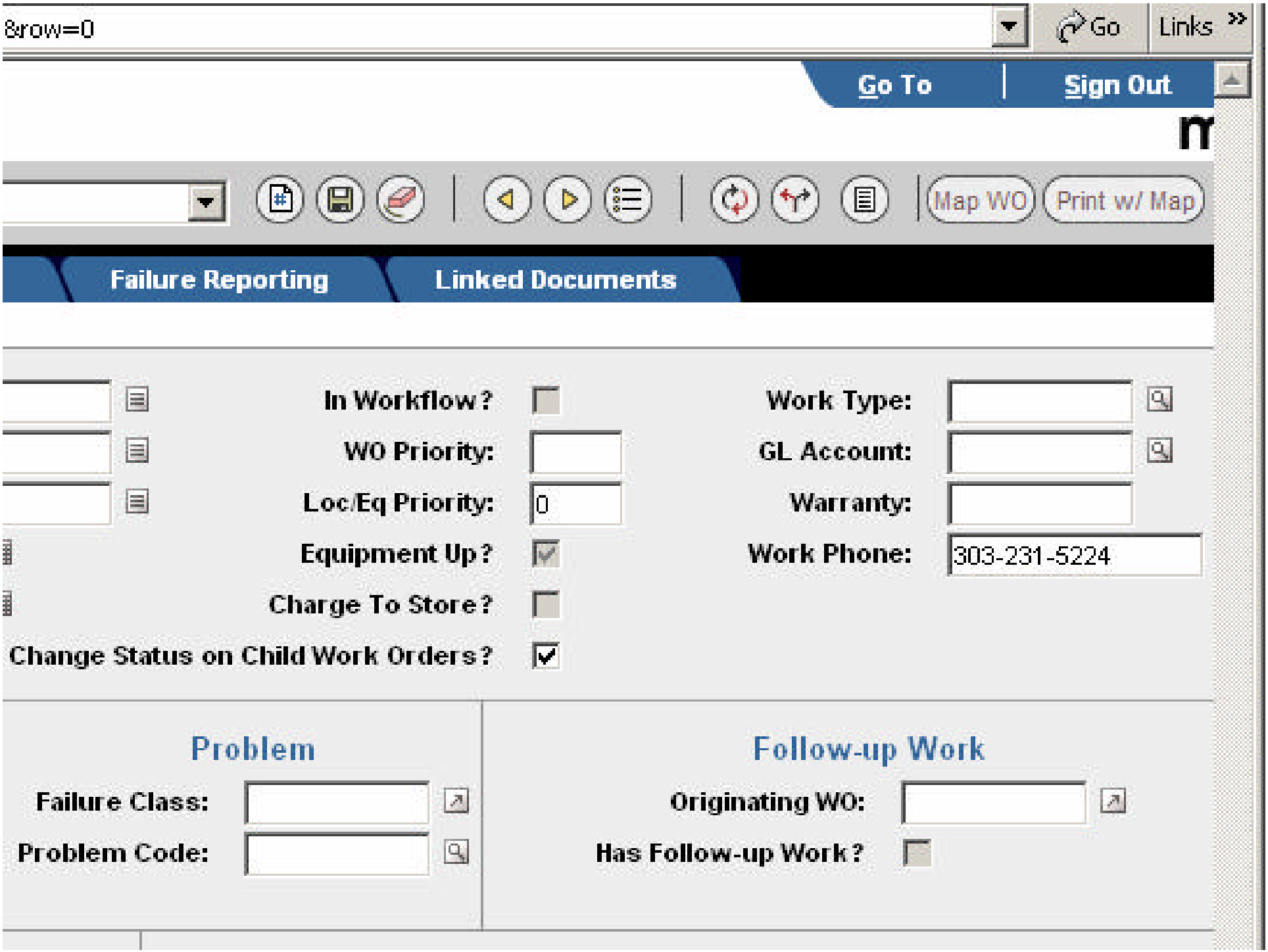
Links
Work Order Tracking - Assad B. Reichdan - BLCKFEET
Go To
Sign Out
urrent Query:
Select Action
Map WO
Print w/ Map
Search
Work Order
Plans
Actuals
Safety Plan
Failure Reporting
Linked Documents
Work Order: * 1172
Remove debris from under bridge (GIS Test)
In Workflow?
Work Type:
Location: C51370003MC
CANAL TMMC
WO Priority:
GL Account:
Equipment: C51370003MC:9
BRIDGE - 092083
Loc/Eq Priority: 0
Warranty:
Reported By: AREICHDAN
Reported Date: 11/17/03 12:00 AM
Equipment Up?
Work Phone: 303-231-5224
Status: * WAPPR
Status Date: * 11/17/03 9:59 AM
Charge To Store?
Parent WO:
Change Status on Child Work Orders?
Job Details
Job Plan:
PM:
Safety Plan:
Service Contract:
Problem
Failure Class:
Problem Code:
Follow-up Work
Originating WO:
Has Follow-up Work?
Scheduling Information
Start
Finish
Target:
12/1/03 12:00 AM
Scheduled:
Actual:
Estimated Duration: * 0:00
Crew:
Remaining Duration:
Interruptible?
Responsibility
Supervisor:
Labor Group:
Lead Craft/Person:
Modified
By: AREICHDAN
Date: 11/17/03 9:59 AM


&row=0
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Sign Out
Map WO
Print w/ Map
Failure Reporting
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In Workflow?
WO Priority:
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Equipment Up?
Charge To Store?
Change Status on Child Work Orders?
Work Type:
GL Account:
Warranty:
Work Phone:
303-231-5224
Problem
Failure Class:
Problem Code:
Follow-up Work
Originating WO:
Has Follow-up Work?

How We Did it

- Create work orders from multiple selections from the map
- Create work orders for a dynamically selected section of an irrigation ditch

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How We Did It

- Two-way data sharing between MAXIMO® and GIS
  - New records
  - Removed records
  - Record updates
- Ability to approve and/or override changes
- Audit trail

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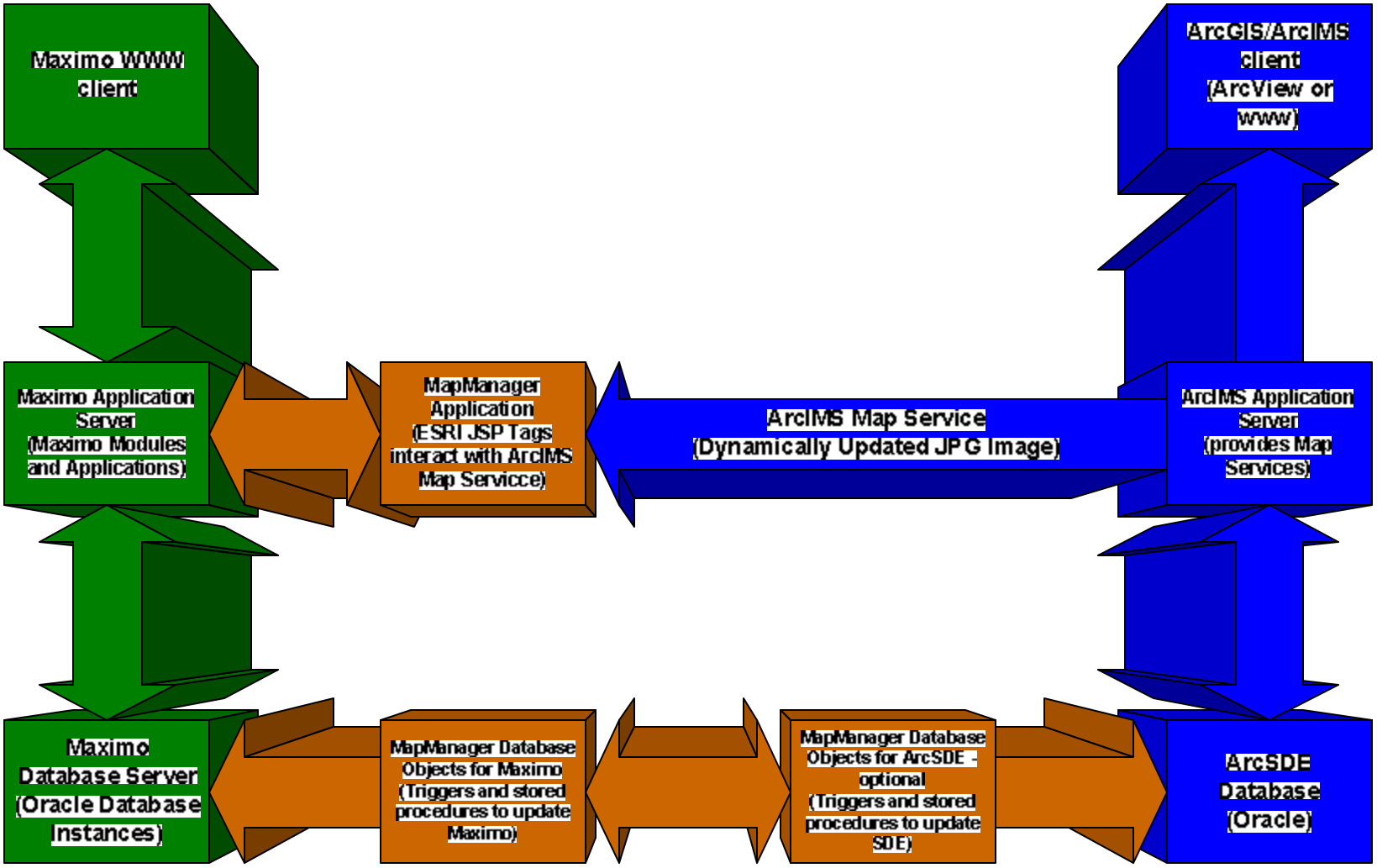
MapManager® Architecture



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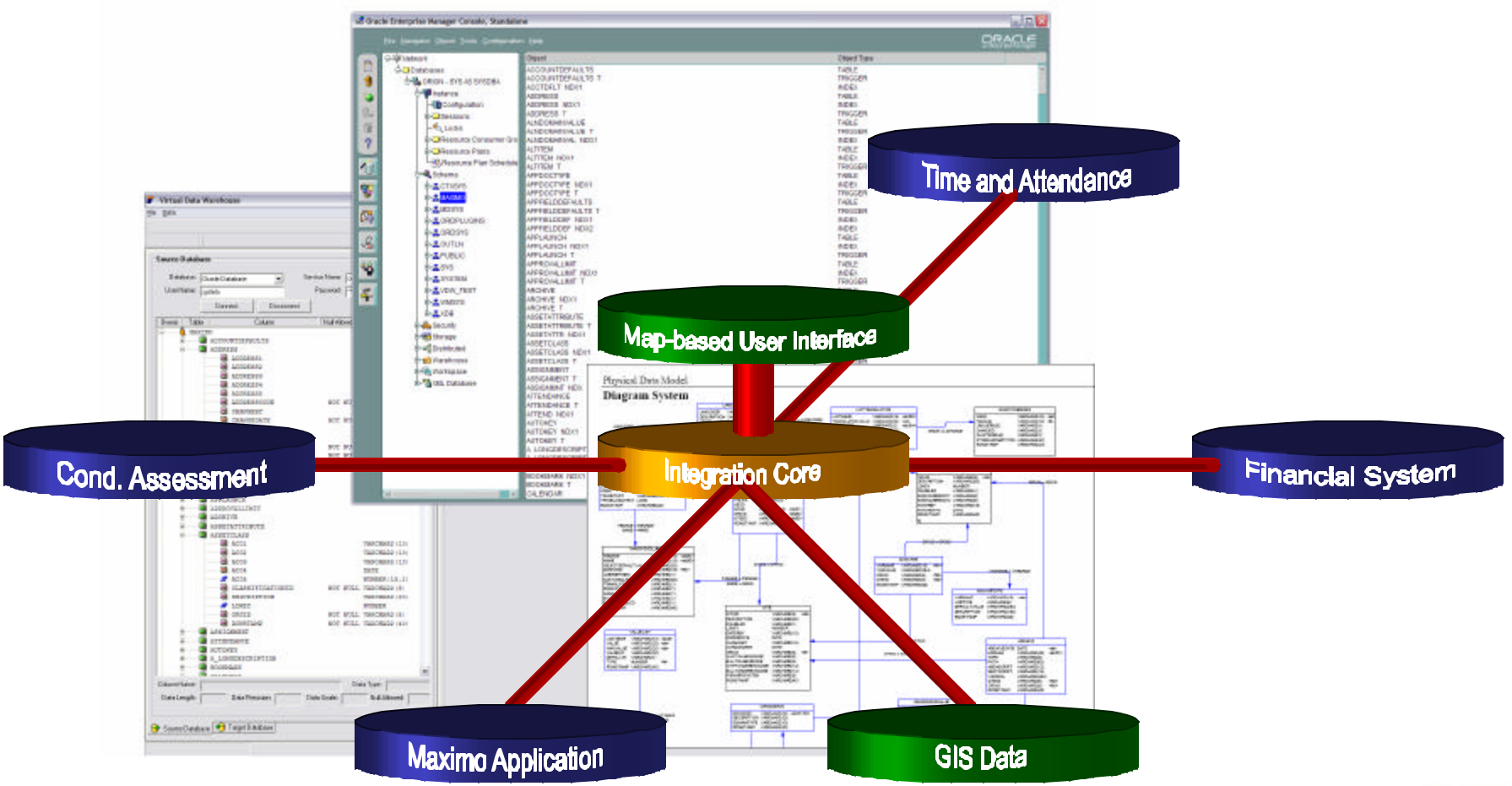
Data Integration



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GIS and MAXIMO® for Project Planning, Design and Construction

- Using a GIS/MAXIMO® Interface
- Session 9c (2nd speaker)
- Wednesday, May 5 (today)
- 2:00 – 3:30 pm
- Salon 6

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